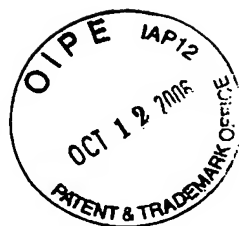


IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES



BRIEF OF APPELLANT

In re Appl. of: Roger A. Boutin

Serial No.: 10/748,047

Filed: December 30, 2003

Title: WEATHERSTRIP HAVING
HYBRID CARRIER

Examiner: Jerry E. Redman

Group Art Unit: 3634

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BRIEF OF APPELLANT

This paper is a Brief in support of the appeal of the final rejection of claims 1 through 21 in the Office action mailed December 19, 2005, as noticed in the Notice of Appeal filed May 19, 2006.

I. REAL PARTY IN INTEREST

The real party in interest is the Assignee of the Appellant, Roger A. Boutin, GenCorp Inc. of Fairlawn, Ohio, as recorded in the Office on March 11, 2004 at Reel 015058, Frames 0674 through 0676.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences either prior to or pending which may be or are related to, directly affect or are directly affected by or have a bearing on the Board's decision in this Appeal.

III. STATUS OF CLAIMS

Claims 1 through 21 are currently pending in this patent application and all have been appealed to the Board of Patent Appeals and Interferences.

IV. STATUS OF AMENDMENTS

An Amendment under 37 C.F.R. § 1.116 was filed March 20, 2006 in response to a Final Rejection mailed December 19, 2005. The subject Amendment was refused entry by the Examiner.

V. SUMMARY OF THE INVENTION

As recited in the preamble of every independent claim, the invention is a weatherstrip 20 for a motor vehicle which provides a seal between an upper free-standing frame portion 12 of a motor vehicle door 10 and a window or glass light (not illustrated) which is received within an opening 16 defined by the frame portion 12 (Page 4, paragraph 20, lines 3 through 6). A typical frame portion 12 includes curved regions 18 of relatively small radii which are intermediate or alternate with straight or relatively straight regions (Page 4, paragraph 20, lines 6 through 8). To accommodate these curved regions of relatively small radii and the intermediate straight regions, the weatherstrip assembly 20 includes a metal core or carrier 30 having regions of two distinct flexibilities and compressibilities (Page 5, paragraph 21, lines 1 through 4).

This metal core or carrier 30 which includes alternating longitudinal regions of less flexibility 32 and regions of greater flexibility 36 gives rise to the title of the application: WEATHERSTRIP HAVING HYBRID CARRIER (Page 1, line 1).

A. Subject Matter of Independent Claim 1

The first subparagraph of claim 1 recites, "a metal carrier having a first longitudinally extending region of a first flexibility and a second longitudinally extending region adjacent said first region of a second flexibility distinct from said first flexibility." As illustrated in Figure 3, the metal carrier 30 includes a first region 32 of lower flexibility, i.e., higher rigidity, which may be achieved by little or no mechanical upset or modification of the metal carrier or core 30. For example, relatively small, alternating and discontinuous apertures or slots 34 are formed in the metal carrier or core 30 to provide minimally reduced rigidity, that is, somewhat enhanced flexibility from its

unaltered, unperforated condition (Page 5, paragraph 21, lines 5 through 8). Alternatively, and as illustrated in Figure 4, the metal carrier or core 30 may be solid (undisturbed) and thus exhibit its maximum rigidity and minimum flexibility (Page 5, paragraph 21, lines 10 through 12).

Longitudinally adjacent the relatively rigid first region 32 is a second region 36 of greater flexibility, that is, lower rigidity and increased compressibility. To achieve such increased flexibility, a plurality of larger slits 38 which open or extend to the edges of the core or carrier 30 and a plurality of central, intermediate slots 42 are provided (Page 5, paragraph 22, line 1 through page 6, line 1). The flexibility of the first region 32 is distinct from the flexibility of the second region 36 (Page 6, paragraph 22, line 9).

The second subparagraph of claim 1 recites, "an elastomeric material disposed about said carrier and including at least one sealing feature." As illustrated in Figure 3, the metal core or carrier 30 is encapsulated by molded or extruded elastomeric material 40 (Page 6, paragraph 23, lines 1 and 2). The elastomeric material 40 preferably has a hardness of 70 durometer and may be selected from a number of elastomers and thermoplastics such as EPDM, TPE and TTE, for example (Page 6, paragraph 23, lines 9 through 12). The elastomeric material 40 includes at least one sealing feature including a first or inner flange 42 which engages an inner portion of the door frame 12 and a second or outer flange 44 which engages an exterior portion of the door frame 12 as shown in Figure 1 (Page 6, paragraph 23, lines 1 through 4). An intimate bond between the metal carrier or core 30 and the molded or extruded elastomeric material 40 which encapsulates the carrier or core 30 is assisted by the apertures or slots 34 in the carrier or core 30 (Page 5, paragraph 21, lines 8 through 10).

B. Subject Matter of Independent Claim 8

The first subparagraph of claim 8 recites, "a U-shaped metal carrier having a first longitudinally extending region of a first flexibility and a second longitudinally extending region adjacent said first region of a second flexibility distinct from said first flexibility." As illustrated in Figure 3, the U-shaped metal carrier 30 includes a first region 32 of lower flexibility, i.e., higher rigidity, which may be achieved by little or no mechanical upset or modification of the U-shaped metal carrier or core 30. For example, relatively small, alternating and discontinuous apertures or slots 34 are formed in the U-shaped metal carrier or core 30 to provide minimally reduced rigidity, that is, enhanced flexibility from its unaltered, unperforated condition (Page 5, paragraph 21, lines 5 through 8).

Longitudinally adjacent the relatively rigid first region 32 is a second region 36 of lower rigidity and increased compressibility. To achieve such increased flexibility, a plurality of larger slits 38 which extend to the edges of the U-shaped metal core or carrier 30 and a plurality of central, intermediate slots 42 are provided. The flexibility of the first region 32 is distinct from the flexibility of the second region 36 (Page 5, paragraph 22, line 1 through page 6, line 1 and line 9).

The second subparagraph of claim 8 recites, "an elastomeric material disposed about said carrier and including at least one sealing feature." As illustrated in Figure 3, the U-shaped metal core or carrier 30 is encapsulated by molded or extruded elastomeric material 40 (Page 6, paragraph 23, lines 1 and 2). The elastomeric material 40 preferably has a hardness of 70 durometer and may be selected from a number of elastomers and thermoplastics such as EPDM, TPE and TTE, for example (Page 6, paragraph 23, lines 9 through 12). The elastomeric material 40 includes at least one

sealing feature including a first flange 42 which engages an inner portion of the door frame 12 and a second or outer flange 44 which engages an exterior portion of the door frame 12 as shown in Figure 1 (Page 6, paragraph 23, lines 1 through 4). An intimate bond between the carrier or core 30 and the molded or extruded elastomeric material 40 which encapsulates the U-shaped metal carrier or core 30 is assisted by the apertures or slots 34 in the carrier or core 30 (Page 5, paragraph 21, lines 8 through 10).

C. Subject Matter of Independent Claim 15

The first subparagraph of claim 15 recites, "a hybrid carrier having a first longitudinally extending region of a first flexibility and second longitudinally extending region adjacent said first region of a second flexibility distinct from said first flexibility." As illustrated in Figure 3, the hybrid metal carrier 30 includes a first region 32 of lower flexibility, i.e., higher rigidity, which may be achieved by little or no mechanical upset or modification of the carrier or core 30. Here, relatively small, alternating and discontinuous apertures or slots 34 are formed in the hybrid carrier or core 30 to provide minimally reduced rigidity, that is, enhanced flexibility from its unaltered, unperforated condition (Page 5, paragraph 21, lines 4 through 8). Alternatively, and as illustrated in Figure 4, the hybrid carrier or core 30 may be solid (undisturbed) and thus exhibit its maximum rigidity and minimum flexibility (Page 5, paragraph 21, lines 10 through 12).

Longitudinally adjacent the relatively rigid first region 32 is a second region 36 of greater flexibility, that is, lower rigidity and increased compressibility. To achieve such increased flexibility, a plurality of larger slits 38 which open or extend to the edges of the core or carrier 30 and a plurality of central, intermediate slots 42 are provided. The

flexibility of the first region 32 is distinct from the flexibility of the second region 36 (Page 5, paragraph 22, line 1 through page 6, line 1 and line 9).

The first subparagraph of claim 15 also recites, "said first and said second regions having substantially uniform flexibility along their respective lengths." The description of every embodiment of the invention teaches two regions of the metal core or carrier 30: one of greater rigidity and one of less. Moreover, the manufacture of the metal core or carrier 30 achieves a continuous, uninterrupted length having regions of greater rigidity alternating with regions of greater flexibility (Page 9, paragraph 31, lines 2 through 4). The two regions thus inherently define uniform flexibilities along their respective lengths.

The second subparagraph of claim 15 recites, "an elastomeric sealing material encapsulating said carrier, said material defining at least one longitudinally extending sealing feature." As illustrated in Figure 3, the hybrid core or carrier 30 is encapsulated by molded or extruded elastomeric material 40. The elastomeric material 40 preferably has a hardness of 70 durometer and may be selected from a number of elastomers and thermoplastics such as EPDM, TPE and TTE, for example (Page 6, paragraph 23, lines 9 through 12). The elastomeric material 40 includes at least one sealing feature including a first or inner flange 42 which engages an inner portion of the door frame 12 and a second or outer flange 44 which engages an exterior portion of the door frame 12 as shown in Figure 1 (Page 6, paragraph 23, lines 1 through 4). An intimate bond between the hybrid carrier or core 30 and the molded or extruded elastomeric material 40 which encapsulates the hybrid carrier or core 30 is assisted by the apertures or slots 34 in the hybrid carrier or core 30 (Page 5, paragraph 21, lines 8 through 10).

D. Alternate Embodiments

As noted above in Sections A and C, a first alternate embodiment core 30A is illustrated in Figure 4. Here, the core or carrier 30A includes a more rigid region 52 which is undisturbed (solid) material. It also includes a second, more flexible and compressible region 54 having slits 56 which extend inwardly from its edges as well as intermediate arcuate slots 58 (Page 7, paragraph 24, lines 1 through 7).

A second alternate embodiment core 30B is illustrated in Figure 5. It, too, includes a region 62 of less flexibility which is defined by a plurality of through apertures 64 (Page 7, paragraph 25, lines 1 through 4) and a region 66 of increased flexibility and compressibility defined by a plurality of parallel transverse slits 68 and intermediate arcuate slots 70 (Page 7, paragraph 26, line 1 through page 8, line 2).

Finally, a third alternate embodiment core 30C is illustrated in Figure 6. It includes a region 72 of lesser flexibility which is defined by a plurality of through slots 74 (Page 8, paragraph 27, lines 1 through 6). The carrier 30C also includes a region 76 of increased flexibility and compressibility defined by a plurality of parallel transverse slits 78 and furthermore a skived region 84 where a portion of the core or carrier 30C has been removed along its length to further reduce the rigidity of the core 30C (Page 8, paragraph 28, lines 1 through 8).

VI. GROUND OF REJECTION TO BE REVIEWED

All currently pending claims, namely, claims 1 through 21 stand rejected under 35 U.S.C. § 102(b) as being “clearly anticipated by United States Patent No. 5,783,312

to Laughman et al.” It is this rejection, affecting all of the claims of this patent application, which is herein appealed.

VII. ARGUMENT

A

The rejection of all pending claims under 35 U.S.C. 102(b) for alleged anticipation by U.S. Patent No. 5,783,312 is in error.

The factual inquiry of anticipation under 35 U.S.C. 102(b) is not answered affirmatively by words such as “nearly” or “essentially” or “almost.” Anticipation requires an identical prior art teaching and a claimed invention. Each and every element of the claimed invention must be disclosed in a single prior art reference. In re Paulsen, 30 F.3d 1975, 31 U.S.P.Q.2d 1671 (Fed. Cir. 1994); In re Spada, 911 F.2d 705, 15 U.S.P.Q.2d 1655 (Fed. Cir. 1990). Such disclosure must be either express or inherent and the elements must be arranged as they are in the claim. Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 7 U.S.P.Q.2d 1057 (Fed. Cir. 1988); Verdegaal Bros. Inc. v. Union Oil Co., 814 F.2d 628, 2 U.S.P.Q.2d 1051 (Fed. Cir. 1987); Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989). There must be no difference between the claimed invention and the prior art reference, as viewed by a person of ordinary skill in the art. Scripps Clinic and Research Foundation v. Genentech, Inc., 927 F.2d 1565, 18 U.S.P.Q.2d 1001 (Fed. Cir. 1991). Stated oppositely, the absence from the prior art reference of any claimed element precludes a finding of anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 230 U.S.P.Q. 81 (Fed. Cir. 1986).

B

United States Patent No. 5,783,312 to Laughman et al., teaches a weatherstrip having an expanded sheet metal reinforcing strip. The weatherstrip 10 is best illustrated in Figure 1 and the metal reinforcing strip 30 is best illustrated in Figure 3. The weatherstrip 10 includes an elongate U-shaped body portion 14, a compressible tubular sealing portion 16, and a U-shaped, slit and coined sheet metal strip 30. These three components are repeatedly described by Laughman et al. as “continuous” and indeed they are.

The sheet metal strip 30 includes interior slots 52 which are staggered or offset from edge slots 54 and 56. The interior slots 52 form or define interior bars 34 and the edge slots 54 and 56 correspondingly define staggered or offset edge tabs 36 and 38, respectively. Between the interior bars 34 and edge tabs 36 is a continuous, coined, i.e., reduced thickness, relatively rigid and non-stretching spline 44. Between the interior bars 34 and the edge tabs 38 is a more flexible spline 46 which is interrupted by slits 42.

The two spline constructions provide distinct left side - right side flexibilities to the weatherstrip 10. The continuous, more rigid spline 44 is located proximate the tubular sealing portion 16 and

...helps maintain the uniform configuration of the tubular portion 16 without any kinks or distortion while the outer wall 18 of channel portion 14 is stretched around curves...around a door or trunk opening within a vehicle body. (Column 3, lines 36 through 41).

With regard to the more flexible spline 46, the patent states:

However, since the tabs 38 and the segments of the spline 46 form a serpentine-like continuous and expandable connection of the bars 34, the

rubber wall 18 stretches uniformly and is prevented from tearing when the wall is stretched around a curve. (Column 3, lines 47 through 53).

The feature of Laughman et al., therefore both supporting its patentability and the Examiner's rejection is the distinct, left-right construction of the metal strip 30 which provides distinct left-right flexibility and expandability continuously and uniformly along its length.

Part 1 – Claims 1 through 15

Claim 1, to a weatherstrip, recites the following elements:

- a metal carrier having
 - a first longitudinally extending region of a first flexibility and
 - a second longitudinally extending region adjacent said first region of a second flexibility distinct from said first flexibility and
- an elastomeric material disposed about said carrier and including at least one sealing feature.

The focus of both this appeal and the present argument is the indented text relating to the longitudinally extending regions of distinct flexibility. Simply put, a careful study of Laughman et al. reveals neither a disclosure nor suggestion of providing distinct longitudinal regions of distinct flexibility to a weatherstrip carrier which, for example, facilitates installation.

Moreover, while there is clearly an appreciation of the problem of conforming a substantially linear weatherstrip to the varying profile of a vehicle door or window opening in Laughman et al., the reference provides a totally different solution. Not only does Laughman et al. not anticipate Appellant's claims, but it also teaches away from Applicant's claimed invention by providing a distinct solution to this problem.

It is understood that during examination, “claims are to be given their broadest reasonable interpretation consistent with the specification.” In re Sneed, 710 F.2d 1544, 1548, 218 U.S.P.Q. 385, 388 (Fed. Cir. 1983). The invention is a weatherstrip having alternating longitudinal regions of two distinct flexibilities. This is achieved by a metal carrier having alternating regions of distinct flexibilities.

The Examiner’s rejection appears similar to that in In re Weiss, 26 U.S.P.Q.2d 1885 (Fed. Cir. 1993). Here, in a case dealing with a shoe having cleats which broke away at “a preselected level of force” to protect the wearer from injury, the Commissioner argued that any shoe cleat will break away from the sole at some level of force and thus that only by importing limitations from the specification could the claim be rendered patentable. This, the Commissioner argued, was improper and the claim at issue was therefore overbroad and thus unpatentable. The Federal Circuit, citing In re Sneed, wrote that:

The Commissioner’s reading of the claim limitation is improperly overbroad because it expands the meaning of the claim beyond that which was intended by the inventor as set forth in the specification. Id at 1887.

Here the invention is straightforward: a weatherstrip having a metal carrier having longitudinal regions of two distinct flexibilities. The invention is appropriately and accurately claimed in claims 1 through 14 and it is not anticipated by Laughman et al.

Part 2 – Claims 15 through 21

As to claims 15 through 21, independent claim 15 adds the limitation:

the first and second regions having substantially uniform flexibility along their respective lengths.

This limitation addresses the feature of the invention which is apparent in all of the various embodiments: that each adjacent first and second region of distinct rigidities has substantially uniform rigidity along its particular length. This further limitation is nowhere found or suggested in Laughman et al. which teach a metal weatherstrip insert which exhibits a single, continuous and uniform flexibility along its length. Neither the disclosure nor the suggestion of longitudinal regions having distinct flexibility is anywhere found in Laughman et al. Rather, the U-shaped metal strip 30 of the reference exhibits distinct flexibilities on the left and right sides of the strip 30 by virtue of a first continuous spline 44 and a second, transversely interrupted spline 46. Laughman et al. do not teach all of the elements of claim 15 nor can there be any argument that the elements of claim 15 are inherent in Laughman et al. Accordingly, claims 15 through 21 are not anticipated and the Examiner's rejection should be reversed.

D

Rejected claims 1 through 21 are also not obvious in view of Laughman et al. under a proper interpretation of 35 U.S.C. § 103(a). As set forth above, there are clear deficiencies in the teachings of Laughman et al. which render a rejection under 35 U.S.C. § 102(b) untenable. Thus, at the commencement of an obviousness inquiry, it must be understood that not all elements of the claims are present in the cited prior art.

Obviousness is a question of law answered after the tripartite factual inquiry of Graham v. John Deere, 383 U.S. 1, 148 U.S.P.Q. 459 (1966) has been made. The scope and content of the prior art (Laughman et al.) and the differences between the prior art and the claims at issue have been discussed above. The chasm between the

teachings of Laughman et al. and the claims at issue strongly support a finding of non-obviousness. A level of ordinary skill in the art established as a graduate engineer with one to three years experience, though not established by the record, appears reasonable and further supports this conclusion.

In this instance, a more crucial aspect of Laughman et al. is its teaching of a wholly different carrier structure which facilitates installation. Laughman et al. must be considered for all it teaches: not only disclosures that point toward the invention but also those that diverge or teach away from it. In re Dow Chemical Co., 837 F.2d 469, 5 U.S.P.Q.2d 1529 (Fed. Cir. 1988). A reference teaches away when, upon reading it, a person of ordinary skill in the art is led in a direction divergent from the path taken by the inventor. In re Gurley, 27 F.3d 551, 31 U.S.P.Q.2d 1130 (Fed. Cir. 1994). Monarch Knitting Machine Corp. v. Sulzer Morant GmbH, 139 F.3d 877, 45 U.S.P.Q.2d 1977 (Fed. Cir. 1998).

Here, Laughman et al. lead a person of ordinary skill in the art to provide a weatherstrip core having left-right differences in structure and flexibility. Simply put, this is neither what Appellant did nor what the claimed invention is. Appellant's claimed weatherstrip has a carrier having longitudinally alternating regions of distinct flexibilities by virtue of longitudinally distinct treatment of the metal carrier. This carrier treatment and structure are not obvious under a proper interpretation of 35 U.S.C. 103(a) and claims 1 through 21 should be allowed.

Accordingly, any rejection under 35 U.S.C. § 103(a) for obviousness based upon the Laughman et al. reference is also in error.

Allowance of claims 1 through 21 based upon their manifest patentability over the Laughman et al. reference is both appropriate and requested.

FEES

A briefing fee of \$500.00 pursuant to 37 C.F.R. § 1.17(c) is enclosed. The Commissioner is hereby authorized to charge this amount, along with any fee deficiency associated with the filing of this Paper, to Deposit Account No. 23-1925, as is expressly authorized in the Transmittal accompanying this Paper.

Respectfully submitted,

Oct 10, 2006

Date

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Attachment: Appendix of Claims on Appeal
Evidence Appendix
Related Proceedings Appendix
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VIII. APPENDIX - CLAIMS ON APPEAL

1. A weatherstrip for a motor vehicle comprising, in combination,
a metal carrier having a first longitudinally extending region of a first flexibility and a second longitudinally extending region adjacent said first region of a second flexibility distinct from said first flexibility, and
an elastomeric material disposed about said carrier and including at least one sealing feature.
2. The weatherstrip of claim 1 wherein said metal carrier is fabricated of steel or aluminum.
3. The weatherstrip of claim 1 wherein said first region includes a plurality of apertures disposed generally centrally along said metal carrier.
4. The weatherstrip of claim 1 wherein said second region includes a plurality of transverse slits.
5. The weatherstrip of claim 1 wherein said sealing feature includes a pair of flanges.

6. The weatherstrip of claim 1 wherein said metal carrier is U-shaped in cross-section and a portion of said elastomeric material defines a corresponding U-shape.

7. The weatherstrip of claim 1 wherein said metal carrier is a continuous, unitary piece.

8. A sealing strip for a motor vehicle comprising, in combination,
a U-shaped carrier having a first longitudinally extending region of a first flexibility and a second longitudinally extending region adjacent said first region of a second flexibility distinct from said first flexibility, and
an elastomeric material disposed about said carrier and including at least one feature adapted to provide a seal against a vehicle component.

9. The sealing strip for a motor vehicle of claim 8 wherein said U-shaped carrier is fabricated of steel or aluminum.

10. The sealing strip for a motor vehicle of claim 8 wherein said first region includes a plurality of apertures disposed generally centrally along said U-shaped carrier.

11. The sealing strip for a motor vehicle of claim 8 wherein said second region includes a plurality of transverse slits.

12. The sealing strip for a motor vehicle of claim 8 wherein said sealing feature includes a pair of flanges.

13. The sealing strip for a motor vehicle of claim 8 wherein said sealing feature includes a generally circular, hollow member.

14. The sealing strip for a motor vehicle of claim 8 wherein a portion of said elastomeric material defines a shape corresponding to said U-shaped carrier.

15. A weatherstrip for a motor vehicle comprising, in combination,
a hybrid carrier having a first longitudinally extending region of a first flexibility and a second longitudinally extending region adjacent said first region of a second flexibility distinct from said first flexibility, said first and said second regions having substantially uniform flexibility along their respective lengths and
an elastomeric sealing material encapsulating said carrier, said material defining at least one longitudinally extending sealing feature.

16. The weatherstrip of claim 15 wherein said hybrid carrier is fabricated of metal.

17. The weatherstrip of claim 15 wherein said first region includes a plurality of apertures disposed generally centrally along said hybrid carrier.

18. The weatherstrip of claim 15 wherein said second region includes a plurality of transverse slits.

19. The weatherstrip of claim 15 wherein said sealing feature includes a pair of flanges.

20. The weatherstrip of claim 15 wherein said hybrid carrier is U-shaped in cross-section and said elastomeric material defines a corresponding U-shape.

21. The sealing strip for a motor vehicle of claim 8 wherein said first and said second regions have substantially uniform flexibility along their respective lengths.

VIII. EVIDENCE APPENDIX

For the convenience of the Board, this Appendix includes a copy of United States Patent No. 5,783,312 to Kerry L. Laughman, et al., the sole reference relied upon by the Examiner.

X. RELATED PROCEEDINGS APPENDIX

As noted in Section II, there are no related proceedings and thus there are no decisions to be included in this Appendix.